

REMARKS

The present amendment is in response to the Office Action dated February 14, 2005. Claims 1-7 and 18-23 are now present in this case. Claims 1, 2, and 18 are amended. Claims 8 and 9 are canceled.

Claim 1 stands rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,250,182 to Bento. The applicant respectfully traverse this rejection and requests reconsideration. Specifically, claim 1 recites "a nanofiltration membrane" as well as "an evaporative acid processor coupled to the output line, the evaporative acid processor configured to receive dilute acid via the output line and to reconcentrate the acid using an evaporation process, wherein removal of sugars from the mixture prevents malfunctioning of the evaporative acid processor."

The Office Action asserts that Bento discloses "an acid processing system (33) to further concentrate the acids. " (See Office Action, page 2.) It should be noted that the acid recovery portion of Bento is a reverse osmosis (RO) used to remove lactic acid in glycerol that result as byproducts of a fermentation stage. Bento does not teach or suggest an evaporative acid processor, such as recited in claim 1. Although Figure 1 of Bento shows an evaporation zone 140, it should be noted that this process is for the evaporation of liquids and does not allow for the recovery of the lactic acid. Indeed, the inventive aspect of Bento, as demonstrated by the title of the application has a "membrane separation zone 100 is substituted for the evaporation zone of the prior art process." (See column 9, lines 35-37.) Accordingly, claim 1 is clearly allowable over Bento.

Claims 1-3, 5, and 7 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,554,227 to Kwok et al. The applicant respectfully traverses this rejection and request reconsideration. Kwok discloses a crystal sugar manufacturing process and does not ever mention the use of acid, production of acid or recovery of acid. Kwok does not teach or suggest any structure that functions as an evaporative acid processor, such as recited in claim 1. Accordingly, claim 1 is clearly allowable over Kwok. Claims 2, 3, 5, and 7 are also allowable in the view of the fact that they depend from claim 1, and further in view of the recitation in each of those claims.

Claims 1-5, 7, and 18-20 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent Publication US 2004/000622 A1 to Paanannen. The applicant respectfully traverses this rejection and requests reconsideration. Paanannen discloses a process for recovering Betaine. The process does not involve acid, and does not teach or suggest an evaporative acid processor coupled to the output line of a nanofiltration chamber, as recited in Claim 1. Accordingly, claim 1 is clearly allowable over Paanannen. Claims 2-5, and 7 are also allowable in view of the fact that they depend from claim 1, and further in view of the recitation in each of those claims.

Claim 18 recites a chromatographic unit, a nanofiltration membrane within a filtration chamber, and "an evaporative acid processor coupled to the output line." As discussed above with respect to claim 1, Paanannen does not teach or even suggest any structure to process acid or an evaporative acid processor. Accordingly, claim 18 is clearly allowable over Paanannen. Claims 19 and 20 are also allowable in view of the fact that they depend from claim 18, and further in view of the recitation in each of those claims.

Claims 4 and 6 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Kwok and Bento. The applicant respectfully traverses this rejection and requests reconsideration. As discussed above with respect to claim 1, neither reference teaches or suggests an evaporative acid processor, as recited in claim 1. The combination of Kwok and Bento do not overcome this deficiency. The combination of references do not suggest the structured in claim 1 such as a nanofiltration membrane to "allow passage of the acids in the mixture while substantially blocking passage of the sugars in the mixture" as well as "an evaporative acid processor coupled to the output line, the evaporative acid processor configured to receive dilute acid via the output line and to reconcentrate the acid using an evaporation process," and as recited in claim 1. Claims 4 and 6 depend from claim 1 via claim 2, which recites a chromatographic unit performing a partial separation of acids and sugars. The combination of Kwok and Bento do not teach or suggest a prefiltration chamber with a nanofiltration membrane and an output coupled to a chromatographic unit with the output of the chromatographic unit coupled to a nanofiltration membrane whose output is coupled to an evaporative acid processor. Claim 4 is clearly allowable

over the combination of Kwok and Bento. Claim 5 further recites a sugar processing system comprising a fermentation/distillation system to process the sugar into ethanol. Although Bento is directed to ethanol production, neither Bento, taken alone or combined with Kwok recite the elements of claims 1, 2, 5, and 6. Accordingly, claim 6 is allowable over the combination of Kwok and Bento.

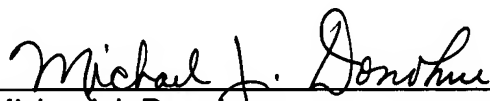
Claims 21 and 22 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Paanannen and Bento. The applicant respectfully traverses this rejection and requests reconsideration. As discussed above, with respect to claim 18, Paanannen does not teach or discuss an acid evaporative processor, as recited in claim 18. The combination of Paanannen and Bento do not teach or suggest the chromatographic unit, nanofiltration membrane, acid evaporative processor and sugar processing system, as recited in claim 21 nor that combination wherein the sugar processing system is a fermentation/distillation system, as recited in claim 22. Accordingly, claims 21-22 are allowable over the combination of Paanannen and Bento.

In view of the above amendments and remarks, reconsideration of the subject application and its allowance are kindly requested. If questions remain regarding the present application, the Examiner is invited to contact the undersigned at (206) 628-7640.

Respectfully submitted,

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